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Xie et al.

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(54) **CONTROL BAR FOR ELEMENT ACTIVATION**

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G06F 3/0482	(2013.01)
G06F 8/34	(2018.01)

(52) **U.S. Cl.**

CPC ***G06F 8/38*** (2013.01); ***G06F 3/0482*** (2013.01); ***G06F 8/34*** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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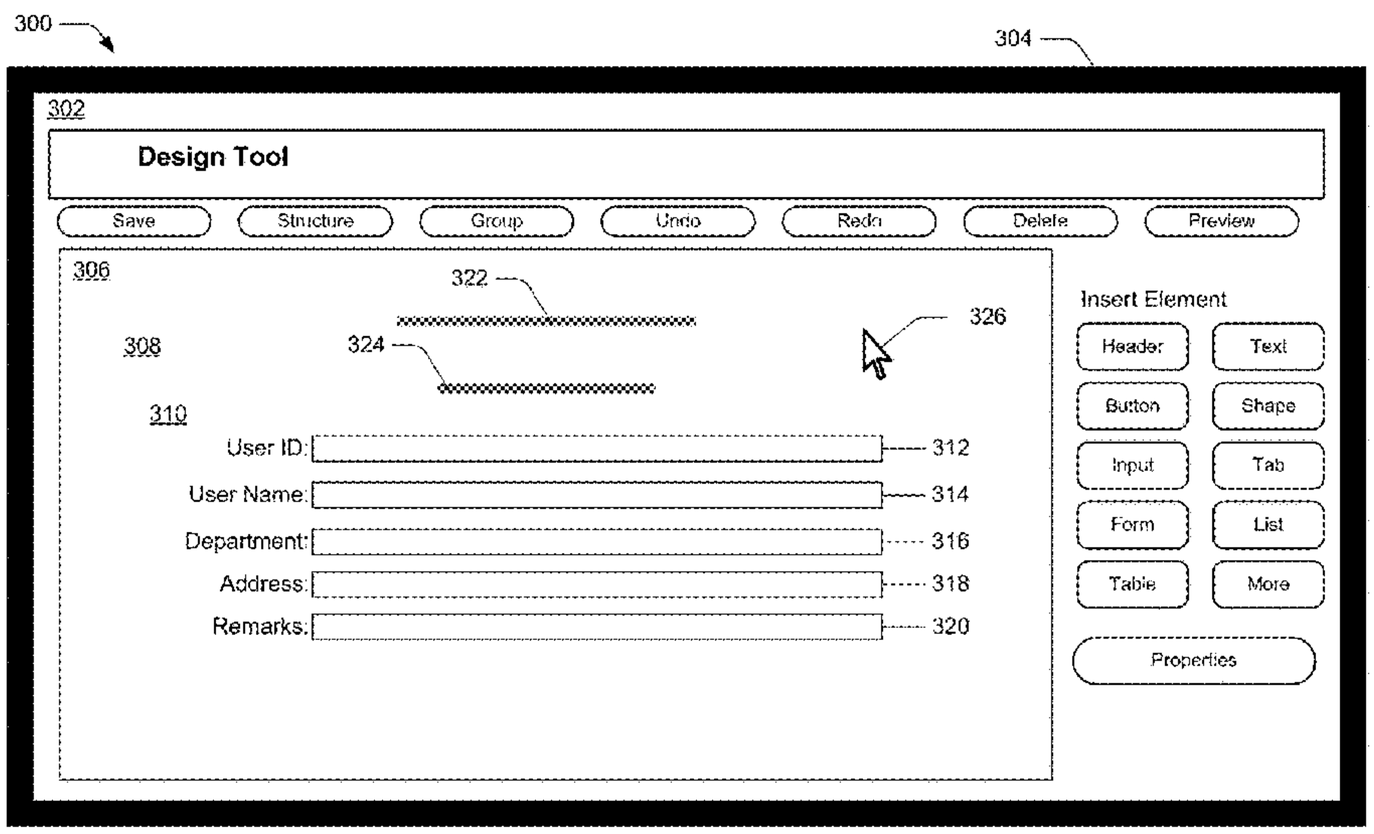
(57) **ABSTRACT**

A control bar for element activation is described. A design interface for editing digital content includes at least a first control bar and a second control bar. The first control bar is associated with a first element of the digital content and the second control bar is associated with a second element of the digital content that at least partially overlaps the first element in the digital content. The control bars are configured to remain visible and selectable in the design interface while editing the digital content. User input to select the first control bar or the second control bar is received, and the respective first element or second element associated with the selected control bar is activated responsive to the user input. The activating changes a visual appearance of both the selected control bar and the activated element and enables user interaction with the activated element.

20 Claims, 11 Drawing Sheets



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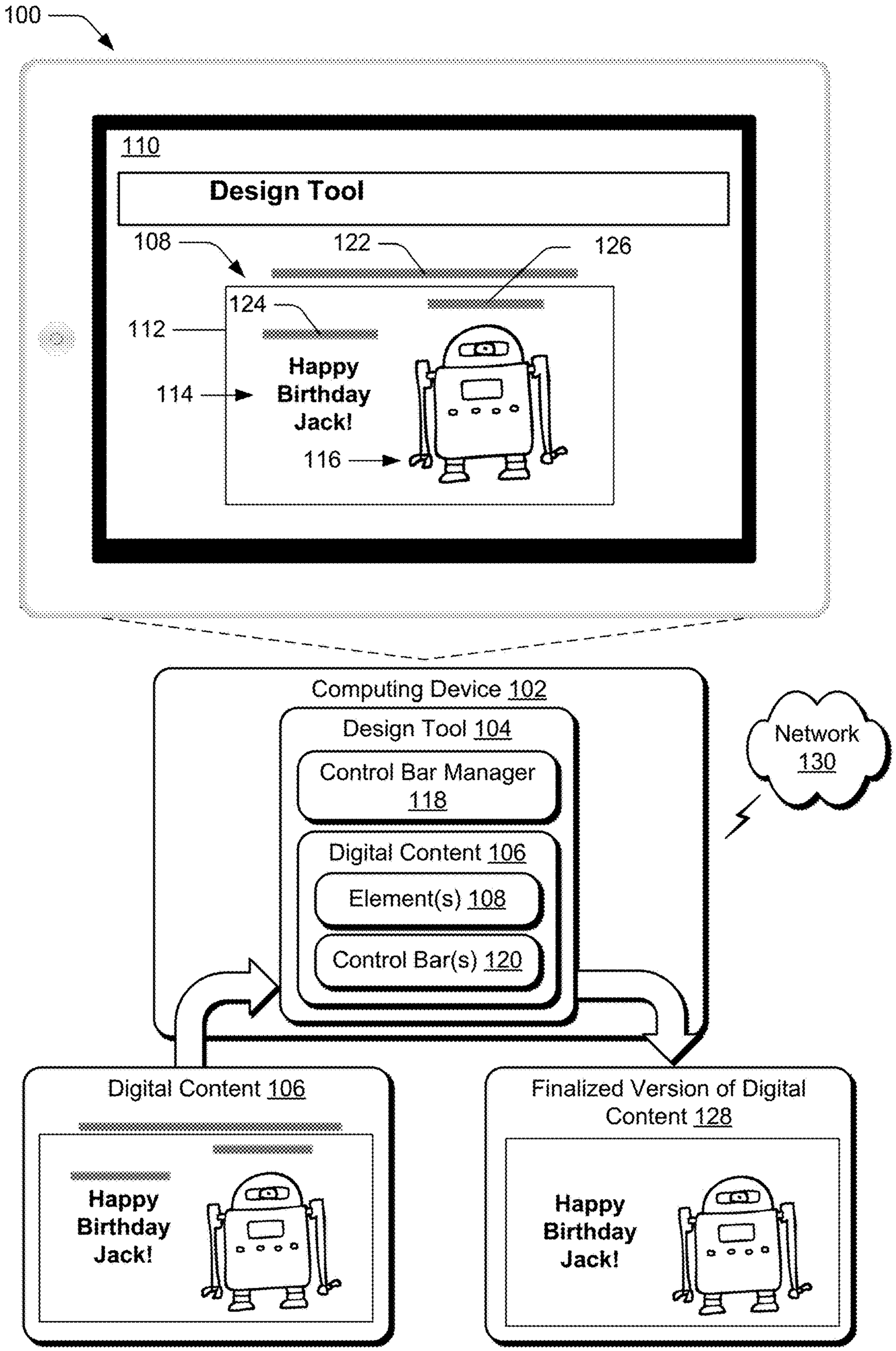

100
110
Design Tool
108
122
126
124
112
Happy
Birthday
Jack!
114
116
Computing Device 102
Design Tool 104
Control Bar Manager 118
Digital Content 106
Element(s) 108
Control Bar(s) 120
Network 130
Digital Content 106
Happy
Birthday
Jack!
Finalized Version of Digital Content 128
Happy
Birthday
Jack!

Fig. 1

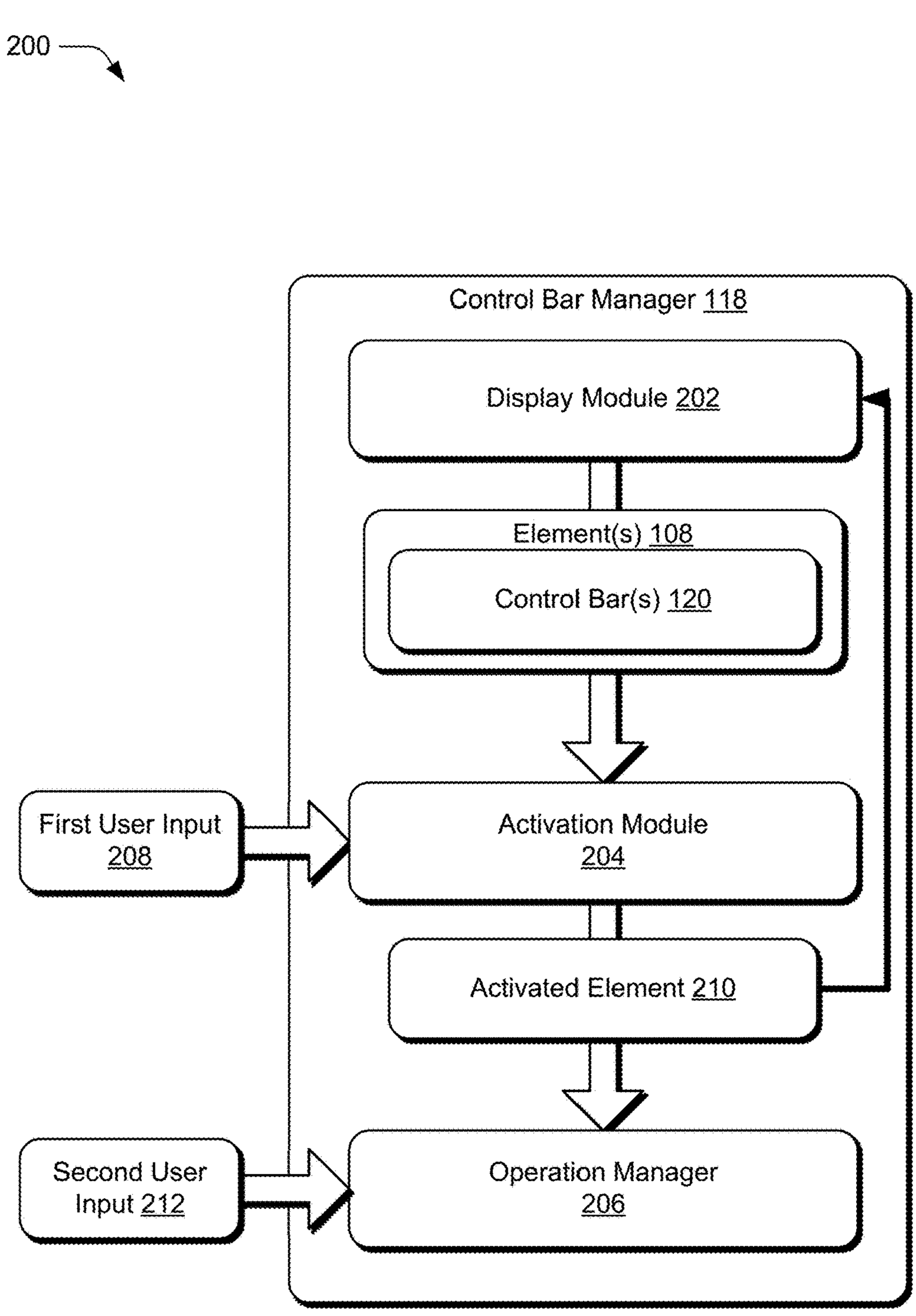

200
Control Bar Manager 118
Display Module 202
Element(s) 108
Control Bar(s) 120
First User Input 208
Activation Module 204
Activated Element 210
Second User Input 212
Operation Manager 206

Fig. 2

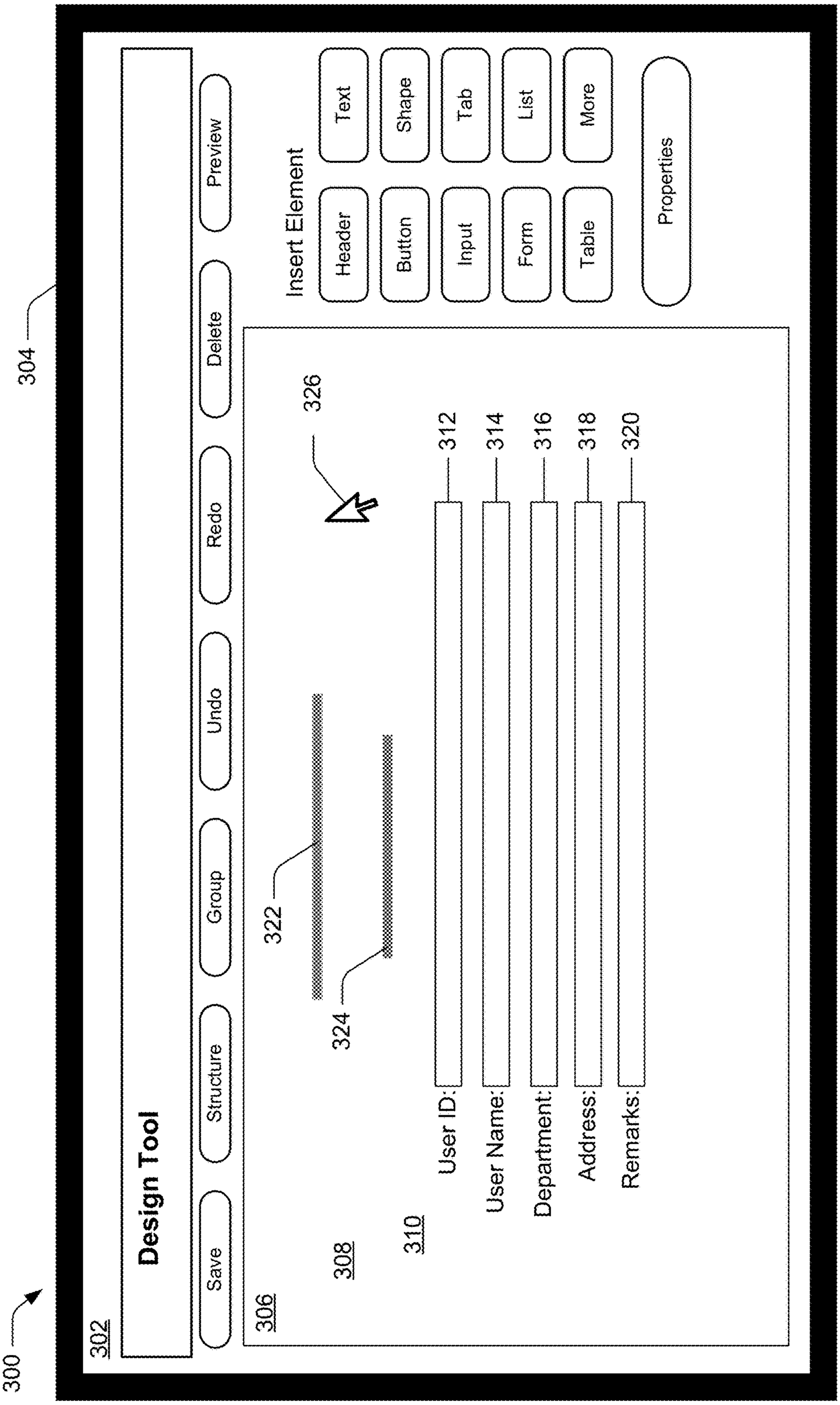
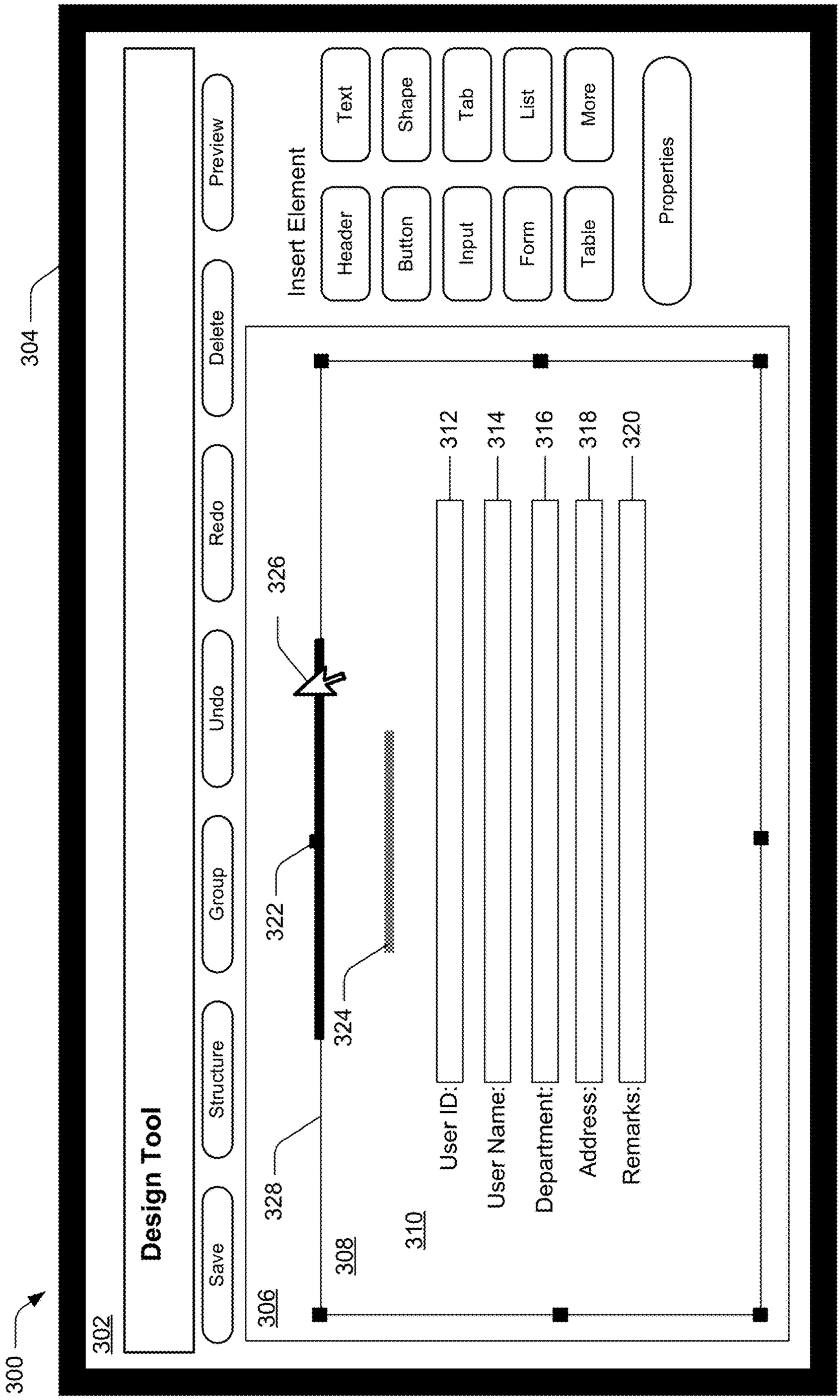

300
302
Design Tool
Save
Structure
Group
Undo
Redo
Delete
Preview
304
306
308
310
322
324
326
312
314
316
318
320
Insert Element
Header
Button
Input
Form
Table
Text
Shape
Tab
List
More
Properties
User ID:
User Name:
Department:
Address:
Remarks:

Fig. 3A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302
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Save
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Insert Element
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Tab
List
More
Properties
306
308
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312
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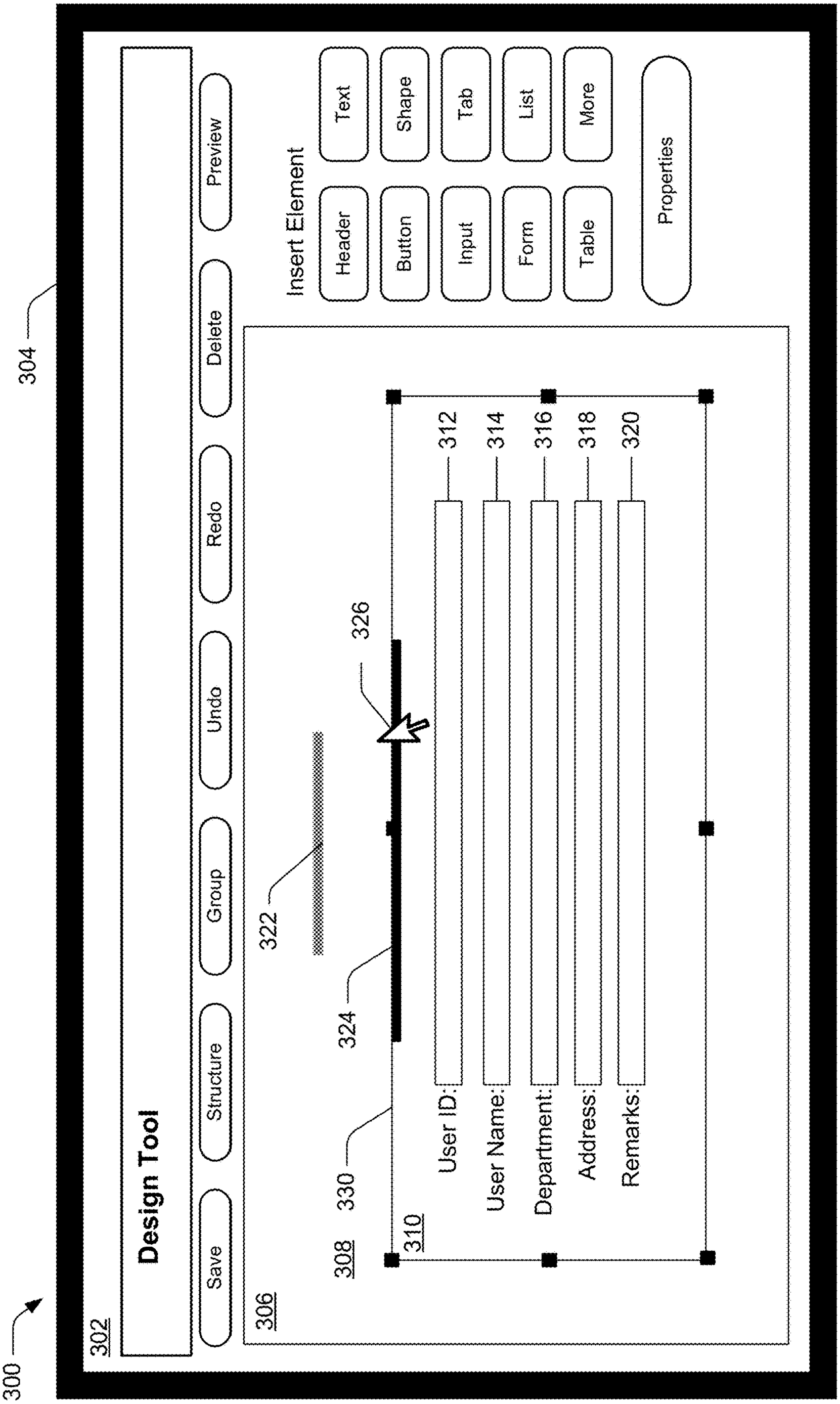
316
318
320
322
324
326
328
User ID:
User Name:
Department:
Address:
Remarks:

Fig. 3B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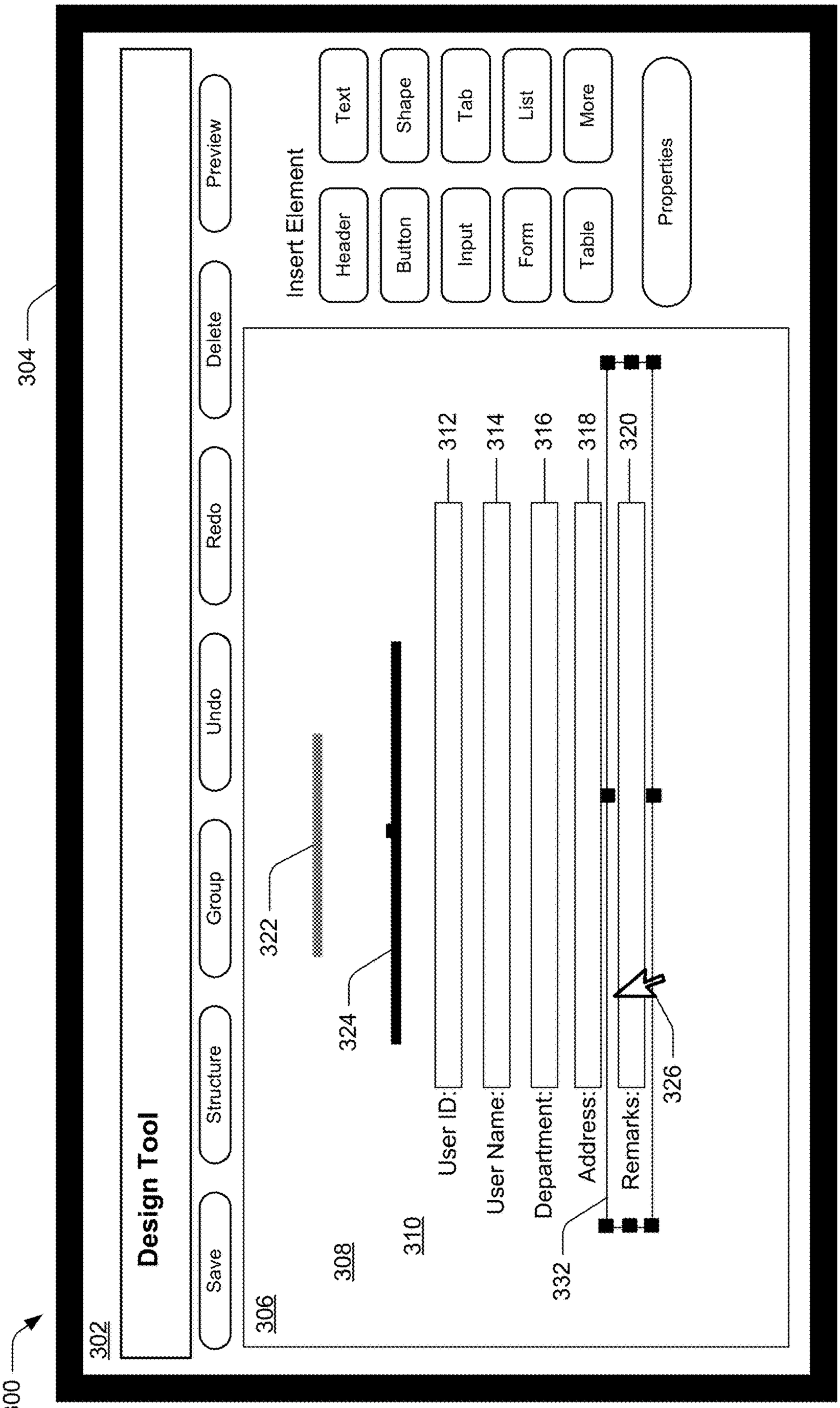
Design Tool
Save
Structure
Preview
Delete
Undo
Redo
Group
304
306
Insert Element
Text
Shape
Tab
List
More
Header
Button
Input
Form
Table
Properties
308
310
312
314
316
318
320
322
324
326
330
User ID:
User Name:
Department:
Address:
Remarks:

Fig. 3C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302
Design Tool
Save
Structure
Group
Undo
Redo
Delete
Preview
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306
308
310
Insert Element
Header
Button
Input
Form
Table
Text
Shape
Tab
List
More
Properties
312
314
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318
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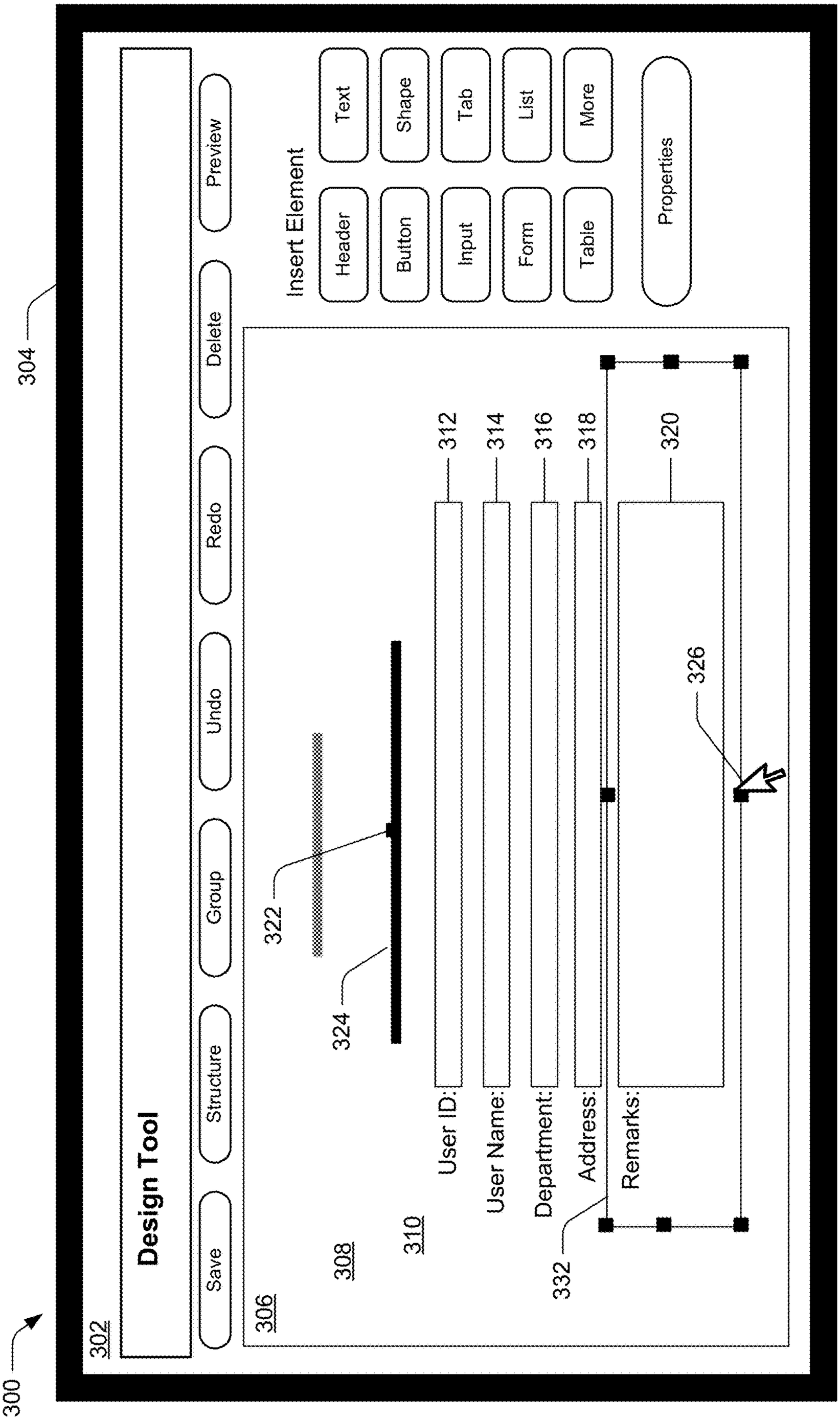
322
324
326
User ID:
User Name:
Department:
Address:
Remarks:
332

Fig. 3D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Group
Undo
Redo
Delete
Preview
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306
308
310
Insert Element
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Shape
Tab
List
More
Header
Button
Input
Form
Table
Properties
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316
318
320
322
324
326
User ID:
User Name:
Department:
Address:
Remarks:
332

Fig. 3E

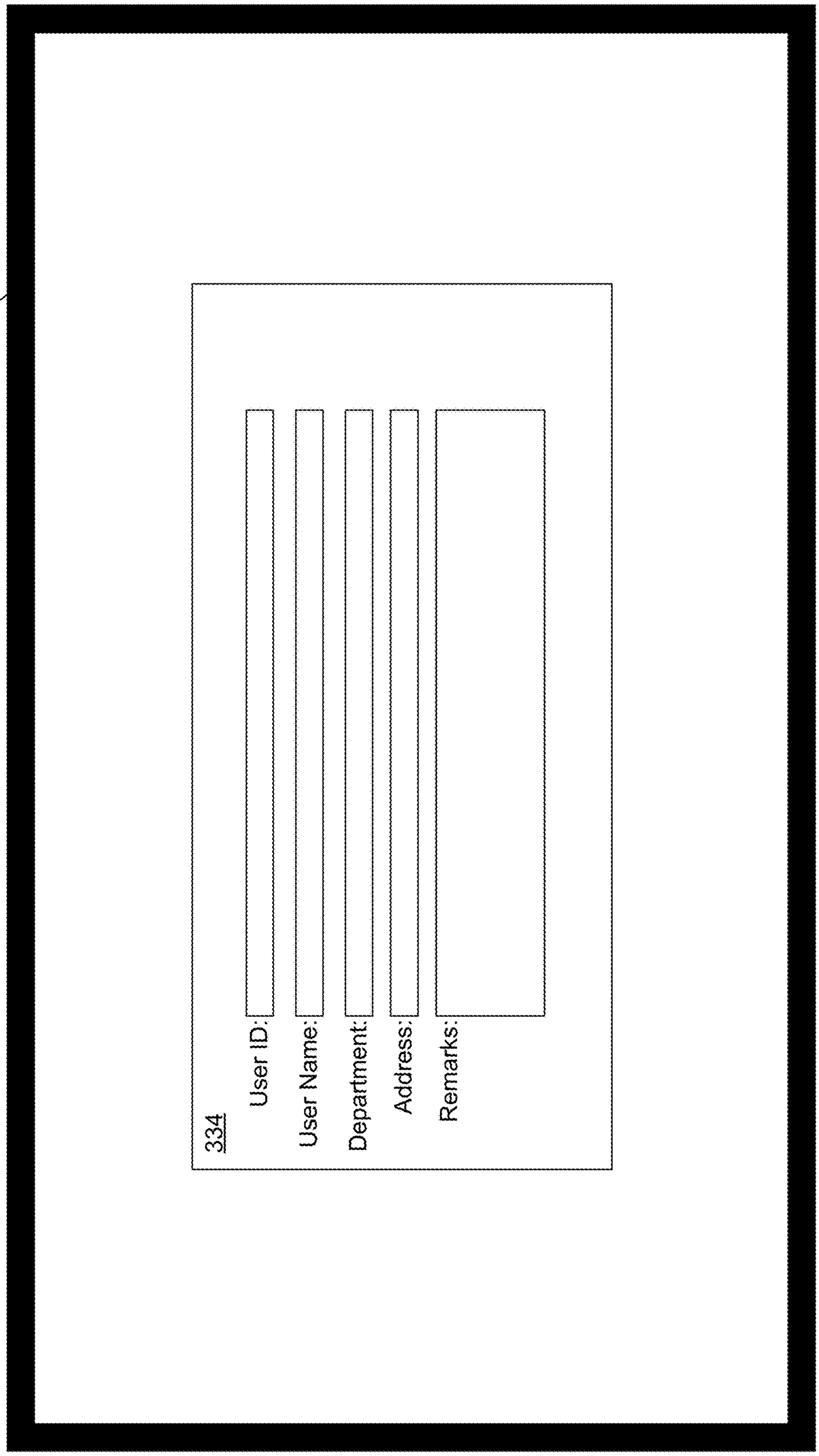

Fig. 3F

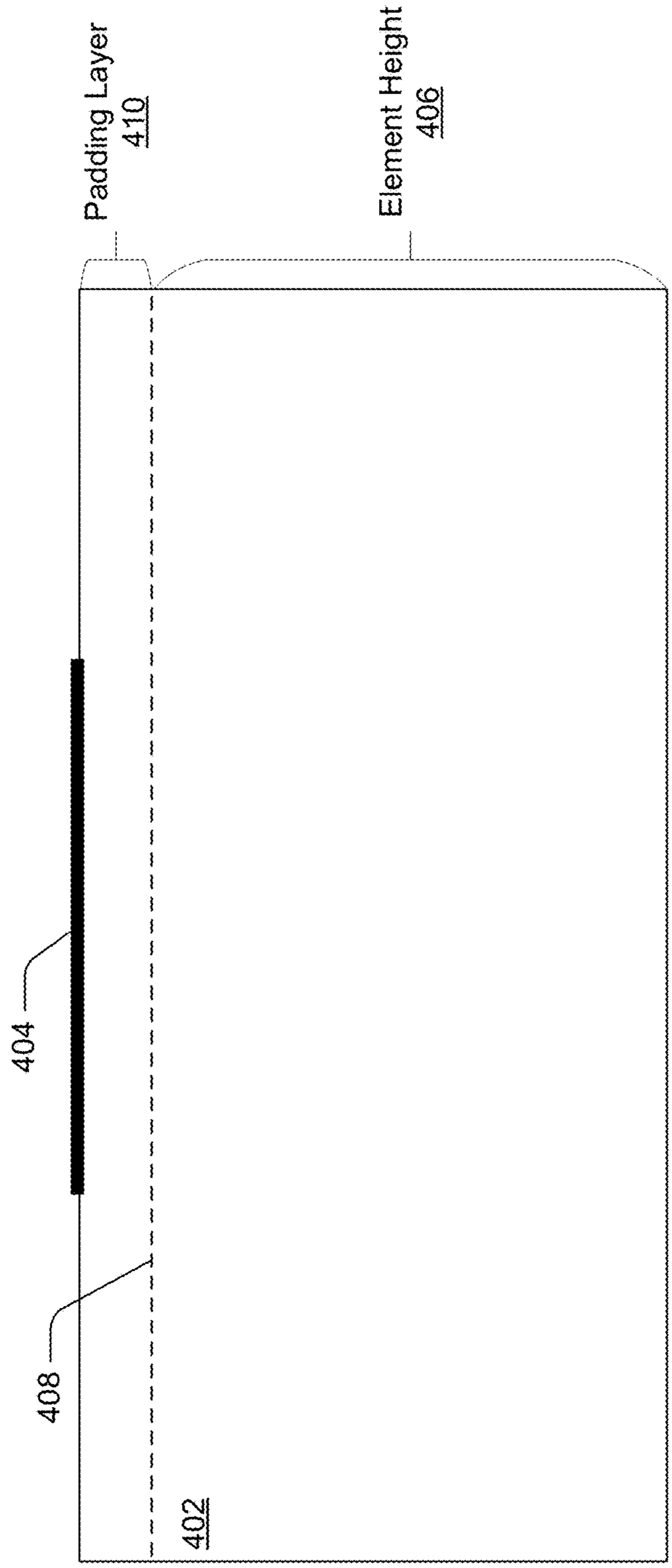

Fig. 4

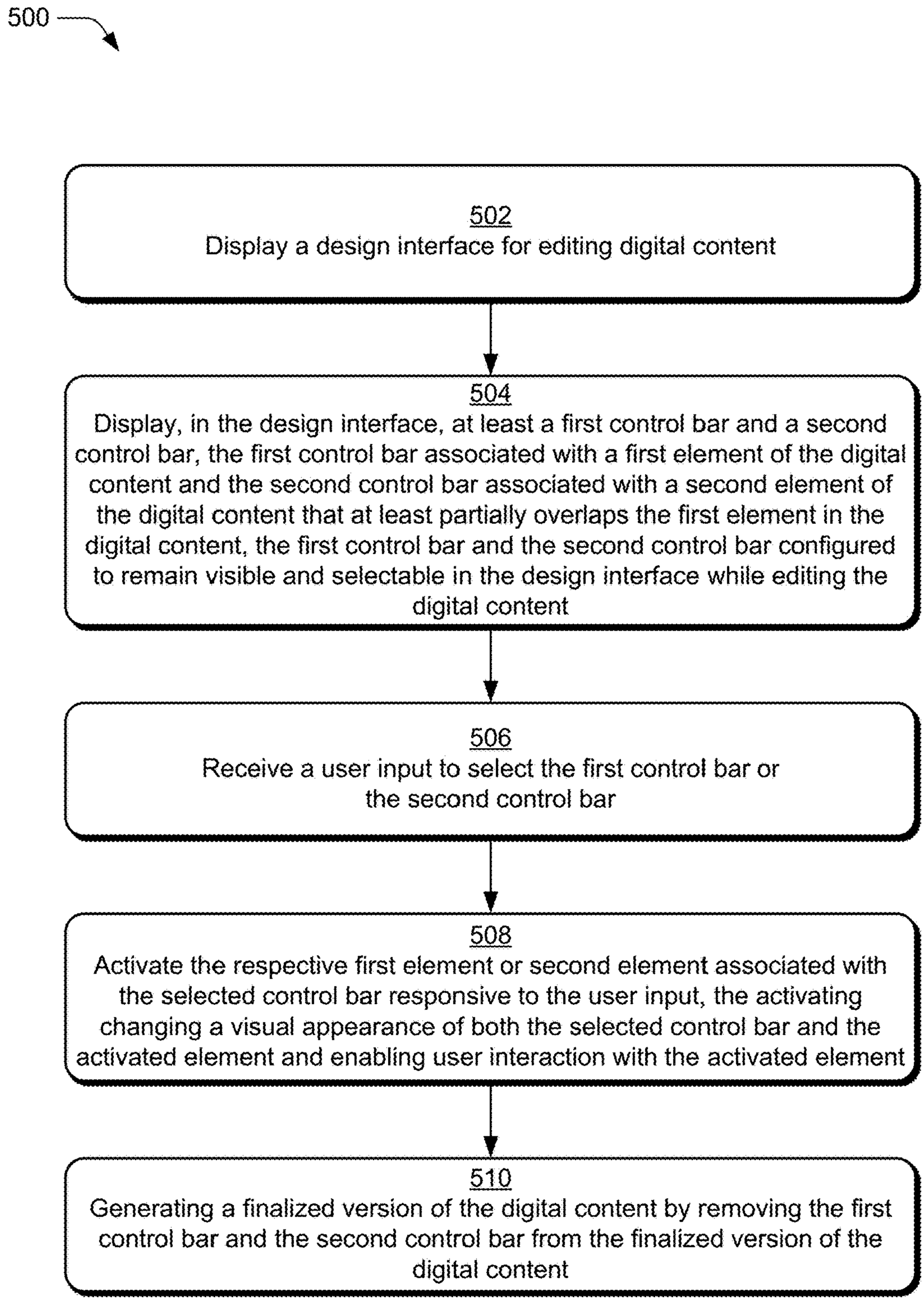
500
502
Display a design interface for editing digital content
504
Display, in the design interface, at least a first control bar and a second control bar, the first control bar associated with a first element of the digital content and the second control bar associated with a second element of the digital content that at least partially overlaps the first element in the digital content, the first control bar and the second control bar configured to remain visible and selectable in the design interface while editing the digital content
506
Receive a user input to select the first control bar or the second control bar
508
Activate the respective first element or second element associated with the selected control bar responsive to the user input, the activating changing a visual appearance of both the selected control bar and the activated element and enabling user interaction with the activated element
510
Generating a finalized version of the digital content by removing the first control bar and the second control bar from the finalized version of the digital content

Fig. 5

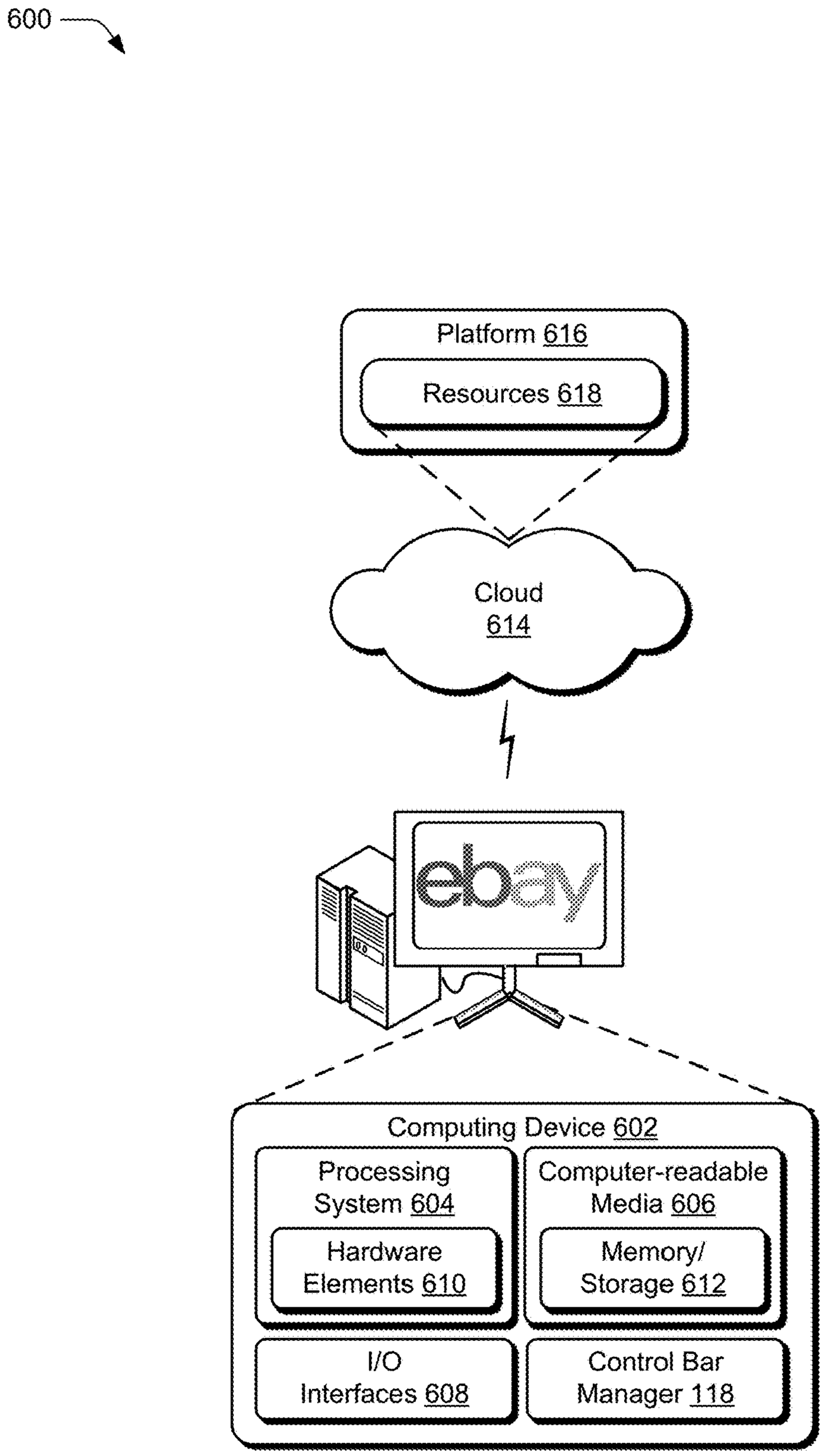
600
Platform 616
Resources 618
Cloud
614
ebay
Computing Device 602
Processing
System 604
Hardware
Elements 610
Computer-readable
Media 606
Memory/
Storage 612
I/O
Interfaces 608
Control Bar
Manager 118

Fig. 6

CONTROL BAR FOR ELEMENT ACTIVATION

RELATED APPLICATIONS

This application is a continuation of and claims priority to U.S. patent application Ser. No. 16/998,465, filed Aug. 20, 2020, entitled "Control Bar for Element Activation", the entire disclosure of which is hereby incorporated by reference herein in its entirety.

BACKGROUND

Digital content can be created using a conventional content editing application to have multiple overlapping elements, such as tabs, forms, tables, shapes, images, and text boxes. Conventional content editing applications, however, are unable to visually differentiate these overlapping elements, such as when a first element completely occludes a second element of the digital content, or when a first element is positioned within a boundary of a second element. This failure to visually differentiate overlapping elements of digital content makes it difficult for the user to identify and select individual elements in order to perform an operation with respect to the element, such as by moving, resizing, changing the color, changing the line width, and so forth. For example, in order to select overlapping elements using such conventional content editing applications, the user must either access a separate menu or repeatedly click or tap on the digital content in an attempt to select the desired element. This is not intuitive for most users and makes it difficult to identify and interact with overlapping elements during content creation.

SUMMARY

To overcome these problems, a control bar for element activation is leveraged. A design interface for editing digital content includes at least a first control bar and a second control bar. The first control bar associated is with a first element of the digital content and the second control bar is associated with a second element of the digital content that at least partially overlaps the first element in the digital content. The first control bar and the second control bar are configured to remain visible and selectable in the design interface while editing the digital content. User input to select the first control bar or the second control bar is received, and the respective first element or second element associated with the selected control bar is activated responsive to the user input. The activating changes a visual appearance of both the selected control bar and the activated element and enables user interaction with the activated element. A finalized version of the digital content is then generated by removing the first control bar and the second control bar from the finalized version of the digital content.

This Summary introduces a selection of concepts in a simplified form that are further described below in the Detailed Description. As such, this Summary is not intended to identify essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

BRIEF DESCRIPTION OF THE DRAWINGS

The detailed description is described with reference to the accompanying figures.

FIG. **1** is an illustration of an environment in an example implementation that is operable to employ techniques described herein.

FIG. **2** depicts an example system in which the control bar manager of FIG. **1** controls a control bar for element activation in accordance with the described techniques.

FIGS. **3**A-**3**F depict an example of a design interface of a design tool used in connection with a control bar manager.

FIG. **4** depicts an example of an element and associated control bar that is positioned at a preconfigured distance above a top boundary of the element.

FIG. **5** depicts a procedure in an example implementation in which a control bar manager provides control bars for element activation.

FIG. **6** illustrates an example system that includes an example computing device that is representative of one or more computing systems and/or devices that may implement the various techniques described herein.

DETAILED DESCRIPTION

Overview

A control bar for element activation is described. The techniques described herein solve the problems associated with conventional content editing applications by providing an "always visible" and "always selectable" control bar that is associated with individual elements of digital content. Each respective control bar is configured to remain "visible" and "selectable" at all times while editing the digital content, even when an element overlaps with another element of the digital content. For example, the control bar associated with an element will remain visible even if the element is occluded by another element causing the element to be "hidden", or if the element is positioned within the boundary of another element. Moreover, a position of the control bar relative to the element remains fixed at all times, even if the element is moved or resized. In an example implementation, the control bar is provided as a horizontal bar and is positioned at a preconfigured distance above the top boundary of the element. In this way, the position of the element can be readily identified based on the position of the visible control bar.

The control bar may be selected in order to activate the respective element associated with the selected control bar such that the user can interact with the activated element. In other words, rather than selecting the element itself, the user can instead select the associated control bar in order to activate the element. Due to the control bar being always visible and selectable, the user can select the control bar with a single click or tap on the control bar regardless of the positioning of the control bar relative to other elements of the digital content. In other words, the control bar remains in a top layer of the digital content at all times during the editing phase such that any input to the digital content at a position associated with the control bar causes the associated element to be activated, even in cases in which multiple elements overlap. For example, even if an element is completely blocked from view by an additional element, the control bar associated with this hidden element will remain visible and selectable in the design interface. As another example, when a first element is positioned within a boundary of a second element, the first element can be readily selected with a single click on the associated control bar even through said control bar is within the boundary of the first element.

Responsive to detecting user input to a control bar, the associated element is activated. Once activated, subsequent

user input is interpreted as input to perform an operation with respect to the activated element, such as to configure properties of the element. In this way, the user can provide a first input by clicking or tapping a control bar to activate the associated element, and then provide a second input to interact with or edit the activated element, such as by dragging the activated element to a new position within the digital content, changing a size, shape, or color of the activated element, or modifying other parameters or attributes of the activated element. In one or more implementations, selection of the control bar also causes a change in the visual appearance of both the control bar and the associated element in order to visually indicate that the element is activated, such as by visually identifying a boundary of the activated element, modifying a color of the selected control bar and/or the activated element, or changing a size of the selected control bar.

At the conclusion of the design and editing phase, a finalized version of the digital content is generated. The finalized version of the digital content, for example, can correspond to a graphic, video, document, web page, and so forth. As part of generating the finalized version of the digital content, the control bars are automatically removed from the digital content such that they are no longer visible in the finalized version of the digital content.

Thus, the control bar described herein solves the problems of conventional content editing applications by enabling elements to always be selectable during the design phase even when such elements are hidden or positioned within the boundary of other elements. Doing so enables the user to easily identify hidden elements and configure the properties of such hidden elements no matter how many elements are added to the digital content because the control bar is always displayed and selectable. Moreover, the control bars are removed at the conclusion of the editing phase and thus do not impact the finalized version of the digital content.

In the following discussion, an example environment is first described that may employ the techniques described herein. Example implementation details and procedures are then described which may be performed in the example environment as well as other environments. Performance of the example procedures is not limited to the example environment and the example environment is not limited to performance of the example procedures.

Example Environment

FIG. **1** is an illustration of an environment **100** in an example implementation that is operable to employ techniques described herein. The illustrated environment **100** includes a computing device **102**, which may be configured in a variety of ways. The computing device **102**, for instance, may be configured as a desktop computer, a laptop computer, a mobile device (e.g., assuming a handheld configuration such as a tablet or mobile phone), and so forth. Thus, the computing device **102** may range from full resource devices with substantial memory and processor resources (e.g., personal computers, game consoles) to a low-resource device with limited memory and/or processing resources (e.g., mobile devices). Additionally, although a single computing device **102** is shown, the computing device **102** may be representative of a plurality of different devices, such as multiple servers utilized by a business to perform operations "over the cloud" as described in FIG. **6**.

The computing device **102** is illustrated as including a design tool **104**. Generally, the design tool **104** represents an application or functionality of the computing device **102** to design, create, and/or modify digital content **106**. As described herein, digital content **106** may include any type of digital content that is designed, created, or edited using design tool **104**, including by way of example and not limitation, graphics, digital presentations, documents, videos, images, web pages, and so forth. For example, the design tool **104** may be implemented as a graphics editing application, a word processing application, a web page design application, and so forth. The design tool **104** may further be representative of more than one application (e.g., a suite of applications) that supports functionality to perform content editing operations on various types of digital content **106** without departing from the spirit or scope of the techniques described herein. At least some of the digital content **106**, relative to which the design tool **104** is configured to perform operations may be maintained in storage of the computing device **102**. However, the digital content **106** may also represent digital content accessible to the computing device **102** in other ways, e.g., accessible to the computing device **102** from storage of another device over network **130**. The digital content **106** may represent various types of digital content without departing from the spirit or scope of the techniques described herein.

The design tool **104** includes functionality that enables users to create and arrange a variety of digital content elements **108** ("elements **108**") within the digital content **106**. As described herein, elements **108** can include any element or object that is included with digital content **106**, including by way of example and not limitation, images, text, points, lines, basic shapes (e.g., rectangles, squares, ellipses, circles, triangles, and so on), user-defined shapes (e.g., by drawing and connecting a series of lines), and so forth.

In accordance with the techniques described herein, elements **108** may also include container elements which correspond to an element that can contain other elements **108** within a boundary of the container element. In some cases, the design tool **104** establishes a hierarchical relationship between the container element and the elements contained within the container element. For example, the container element may be established as the parent element for one or more child elements contained within the parent element. Examples of container elements **108** include, by way of example and not limitation, frames, tabs, tables, forms, and lists. In some cases, a hierarchical relationship between elements **108** may be established based on the positioning of elements within the digital content. For example, a parent-child relationship may be established when a user positions a first shape within the boundary of a second shape.

In order to facilitate the design, creation, or editing of digital content **106**, the design tool **104** includes functionality for editing digital content **106** during a design phase. As part of the design phase, the design tool **104** provides a design interface **110** that allows users to interact with and edit the elements **108** of the digital content in order to change the properties or attributes of these elements, such as the element's position within the digital content **106**, size, shape, color, transparency, fill type (e.g., solid, gradient, pattern, texture, and so on), depth relative to other objects (e.g., in front of or behind), whether the elements cast shadows, and so forth. The design tool **104** may facilitate other content editing operations via the functionality of the design interface **110** without departing from the spirit or scope of the techniques described herein.

By way of example, the digital content **106** is depicted as being displayed within the design interface **110** as a graphic that the user is creating and editing using the design tool **104**. The graphic, in this instance, is a birthday card graphic and

includes a container element **112**, a text element **114** (which includes the words "Happy Birthday Jack!"), and an image element **116** (an image of a robot). Notably, the elements **114** and **116** are positioned within a boundary of the container element **112**, which may cause the design tool **104** to create a hierarchical relationship between "parent" element **112** and "child" elements **114** and **116**. Moreover, it is to be appreciated that elements **114** and **116** each partially overlap element **112** due to their positioning with the boundary of element **112**. Using conventional content editing applications, it can be difficult for the user to select and interact with or edit these overlapping elements. For example, clicking on element **114** or **116** using a conventional content editing application may cause the application to interpret the click as a selection of the container element **112**. This can lead to user frustration and confusion as the user tries to select a desired element.

To solve these problems, the computing device **102** is depicted as including a control bar manager **118**, the functionality of which may be incorporated in and/or accessible to the design tool **104**. The control bar manager **118** is implemented at least partially in hardware of the computing device **102** to facilitate efficient and effective creation and editing of digital content **106** through the use of control bars **120** associated with the elements **108** of the digital content **106**. Continuing with the example above, the control bar manager **118** displays control bars **122**, **124**, and **126** for elements **112**, **114**, and **116**, respectively. Each of control bars **122**, **124**, and **126** are selectable by the user in order to activate the corresponding element **112**, **114**, or **116**. The activating enables user interaction with the activated element, such as to move the activated element, change a size, color or shape of the activated element, or modify other properties or attributes of the activated element. Notably, the control bar manager **118** controls the control bars **120** to remain visible and selectable in the design interface **110** while editing the digital content **106** during the design phase.

At the completion of the design phase, the design tool **104** generates a finalized version of the digital content **128**. The finalized version of the digital content **128**, for example, can correspond to an image file, movie, document, web page, and so forth. As part of generating the finalized version of the digital content **128**, the control bar manager **118** automatically removes the control bars **120** from the digital content **106** such that they are no longer visible in the finalized version of the digital content **128**. For example, as depicted in environment **100**, the design tool **104** has removed the control bars **122**, **124**, and **126** from the finalized version of the digital content **128**.

Having considered an example environment, consider now a discussion of some example details of the techniques for a control bar for element activation in accordance with one or more implementations.

FIG. **2** depicts an example system **200** in which the control bar manager **118** of FIG. **1** controls a control bar for element activation in accordance with the described techniques. In the illustrated example **200**, the control bar manager **118** includes a display module **202**, an activation module **204**, and an operation manager **206**. Although depicted with these three modules, in implementation the control bar manager **118** may include more, fewer, or different modules to control the control bar for element activation without departing from the spirit or scope of the techniques described herein.

In the illustrated example **200**, the display module **202** is depicted as controlling the display of control bars **120** and associated elements **108**. As part of this, the display module **202** of the control bar manager **118** controls the display of a control bar **120** at a position that remains fixed relative to the respective position of the associated element **108**. In this way, the position of the element can be readily identified by the user based on the position of the visible control bar **120**. In one or more implementations, the display module **202** provides a horizontal control bar that is displayed at a preconfigured distance above a top boundary of the associated element. However, the display module **202** can provide a variety of different shapes for the control bar as well as display the control bar at different positions relative to the associated elements without departing form the spirit or scope of the described techniques, such as by positioning the control bar to the right, left, or below the associated element in the digital content. As described throughout, the display module **202** controls the control bars **120** to remain visible and selectable in the design interface while editing the digital content.

The activation module **204** is depicted as monitoring for and receiving a first user input **208** to select one of the displayed control bars **120**. Due to the control bar being always visible and selectable, the first user input **208** can be received as a single click or tap on the control bar **120** regardless of the positioning of the control bar relative to other elements of the digital content. In other words, the control bar remains in a top layer of the digital content at all times during the editing phase such that any input to the digital content at a position associated with the control bar causes the activation module **204** to interpret the input as a user selection of the control bar, even in cases in which multiple elements overlap. Responsive to detecting the first user input **208** to select a control bar **120**, the activation module **204** activates the element associated with the selected control bar, which is depicted as activated element **210** in example **200**.

The activation module **204** is depicted as communicating an indication of the activated element **210** back to the display module **202**. Responsively, the display module **202** changes a visual appearance of both the selected control bar and the activated element **210**. The display module can change the visual appearance of the selected control bar and the activated element **210** in a variety of different ways, including by way of example and not limitation, visually identifying a boundary of the activated element **210**, modifying a color of the selected control bar and/or the activated element **210**, or changing a size of the selected control bar.

The activation module **204** also communicates an indication of the activated element **210** to the operation manager **206** to inform the operation manager **206** that the activated element **210** is currently active. Subsequently, the operation manager **206** receives a second user input **212** and interprets the second user input **212** as input to perform an operation with respect to the activated element **210**. In this way, the user can quickly click or tap a control bar to activate the associated element, and then provide a second input to interact with or edit the activated element **210**, such as by dragging the activated element to a new position within the digital content, changing a size, shape, or color of the activated element **210**, or modifying other parameters or attributes of the activated element **210**.

FIGS. **3**A-**3**F depict an example **300** of a design interface of a design tool used in connection with a control bar manager. The illustrated example **300** includes a design interface **302** displayed via display device **304**. In FIG. **3**A, the design interface **302** is depicted as including a design area **306** for designing and editing digital content. The design area **306**, in this example, is shown as displaying

various elements for a web page, including a frame element **308** that contains a form element **310**. The form element **310**, in this example, includes multiple data entry field elements **312**, **314**, **316**, **318**, and **320**, which are configured to receive user input corresponding to a user ID, user name, department, address, and remarks, respectively. The design interface **302** in this example is further depicted as including various controls to insert elements into the digital content, modify parameters of the digital content, and perform various other operations associated with the digital content.

Notably, form element **310** is positioned within a boundary of frame element **308** which may cause the design tool **104** to create a hierarchical relationship between these elements such that frame element **308** is the "parent" and form element **310** is the "child". Similarly, the multiple data entry field elements **312**, **314**, **316**, **318**, and **320** are positioned within a boundary of form element **310** which may cause the design tool **104** to create a hierarchical relationship between these elements such that the form element **310** is the "parent" and the data entry field elements **312**, **314**, **316**, **318**, and **320** are the "children" of form element **310**. Moreover, it is to be appreciated that elements **308**, **310**, **312**, **314**, **316**, **318**, and **320** overlap each other due to the positioning of form element **310** within the boundary of frame element **308**, and the positioning of elements **312**, **314**, **316**, **318**, and **320** within form element **310**. Using conventional content editing applications, it can be difficult for the user to select and interact with or edit these overlapping elements.

To solve the problems associated with conventional content editing applications, the control bar manager **118** displays a control bar **322** associated with frame element **308** and a control bar **324** associated with form element **310**. Each of control bars **322** and **324** are selectable by the user in order to activate the corresponding element **308** or **310**, respectively. The activating enables user interaction with the activated element, such as to move the activated element, change a size, color or shape of the activated element, or modify other properties or attributes of the activated element. As discussed throughout, the control bar manager **118** controls the control bars **322** and **324** to remain visible and selectable in the design interface **110** while editing the digital content **106** during the design phase.

The illustrated example **300** also includes a cursor **326**, which represents functionality to enable a user to provide input to select elements or controls displayed in the design interface **302**. Although the cursor **326** is illustrated, in one or more implementations there may be no displayed cursor. Additionally or alternately, the element and controls of the design interface **302** may be selected in other ways, such as via touch input (or other gesture input), keyboard input, stylus input, voice input, and so forth.

In FIG. **3**B, the cursor **326** is depicted selecting the control bar **322** associated with the frame element **308**. The control bar **322** can be selected, for example, by positioning cursor **326** over the control bar **322** and initiating a single click or tap. Responsive to the selection of control bar **322**, the control bar manager **118** activates the associated frame element **308**. The activating enables user interaction with frame element **308**, such as to move or resize the frame element, or modify other properties or attributes of the frame element via user selection of various controls in the design interface **302**.

As part of activating frame element **308**, the control bar manager **118** also changes a visual appearance of both the selected control bar **322** and the activated frame element **308**. In this example, control bar manager **118** is depicted as changing the color and width of the selected control bar **322**. For example, as compared to FIG. **3**A, the control bar **322** has increased in width and changed color from gray to black. Doing to visually distinguishes the selected control bar **322** from control bar **324** which is not currently active. Additionally, the control bar manager **118** has visually identified a border **328** of the activated frame element **308**. In some cases, the control bar manager may also highlight the activated frame element **308** to show that the frame element **308** is currently active. It is to be appreciated that the control bar manager may change the visual appearance of the selected control bar and the activated element in a variety of different ways without departing from the spirit or scope of the described techniques.

In FIG. **3**C, the cursor **326** is depicted selecting the control bar **324** associated with the form element **310**. The control bar **324** can be selected, for example, by positioning cursor **326** over the control bar **324** and initiating a single click or tap. Responsive to the selection of control bar **324**, the control bar manager **118** activates the associated form element **310**. The activating enables user interaction with form element **310**, such as to move or resize the form element, or modify other properties or attributes of the form element via user selection of various controls in the design interface **302**.

As part of activating form element **310**, the control bar manager **118** also changes a visual appearance of both the selected control bar **324** and the activated form element **310**. In this example, control bar manager **118** is depicted as changing the color and width of the selected control bar **324**. For example, as compared to FIGS. **3**A and **3**B, the control bar **324** has increased in width and changed color from gray to black. Doing so visually distinguishes the selected control bar **324** from control bar **322** which is not currently active. Additionally, the control bar manager **118** has visually identified a border **330** of the activated form element **310**. In some cases, the control bar manager may also highlight the activated form element **310** to show that the form element **310** is currently active. It is to be appreciated that the control bar manager **118** may change the visual appearance of the selected control bar and the activated element in a variety of different ways without departing from the spirit or scope of the described techniques.

In one or more implementations, the control bar manager **118** is configured to display control bars for container elements, but does not do so for single elements. In example **300**, for instance, the data entry field elements **312**, **314**, **316**, **318**, and **320** do not include associated control bars because they are each single element which do not contain any child elements. In this implementation, however, single elements which do not include a control bar may be easily selected by the user by first selecting the control bar associated with the container element that contains the single element, and then selecting the single element. In FIG. **3**D, for example, after activating form element **310** by selecting control bar **324**, the user selects data entry field element **312** by positioning cursor **326** over the data entry field element **312** and initiating a single click or tap. Because form element **310** is currently active, the user can click directly on any of the child elements contained within form element **310** in order to interact with the child elements. Responsive to the user selection of data entry field element **320**, the control bar manager has visually identified a border **332** of the activated data entry field element **320**. However, it is to be appreciated that the control bar manager may change the visual appearance of the activated element in a variety of different ways without departing from the spirit or scope of the described techniques. The activating enables user interaction with data

entry field element **320**, such as to move or resize the element, or modify other properties or attributes of the element via user selection of various controls in the design interface **302**. For example, in FIG. **3**E the user has modified the size of data entry field element **320** by clicking the border **332** and dragging downwards.

FIG. **3**F depicts a finalized version of the digital content **334**. As part of generating the finalized version of the digital content **128**, the control bar manager **118** automatically removes the control bars from the digital content such that they are no longer visible in the finalized version of the digital content **334**. In this example, the design tool **104** has removed the control bars **322** and **324** from the finalized version of the digital content **334**.

As discussed throughout, the control bar manager **118** can display the control bar at a preconfigured distance above a top boundary of the element. To do so, the control bar manager **118** can apply a padding layer to each element of the digital content. As an example, consider FIG. **4** which depicts an example **400** that includes an example element **402** and associated control bar **404** that is positioned at a preconfigured distance above a top boundary of the element. In this example, the element **402** is shown with an element height **406** and a top boundary **408**, which is depicted as a dashed line. The control bar **404** is displayed at a preconfigured distance above the top boundary **408** of the element **402**. In this example, this preconfigured distance is depicted as a padding layer **410**. Notably, the distance of the padding layer **410** may be fixed for each element in the digital content. Doing so enables the control bar to have a visible position in the digital content at all times during the design phase. While the padding layer is depicted throughout as being positioned above the top boundary of the element, it is to be appreciated that other configurations could be used without departing from the spirit or scope of the described techniques, such as by positioning the padding layer below the bottom boundary of the element, or to the left or right of the element.

Having considered an example environment, consider now a discussion of some example details of the techniques for a control bar for element activation in accordance with one or more implementations.

Example Procedures

This section describes example procedures for a control bar for element activation. Aspects of the procedures may be implemented in hardware, firmware, or software, or a combination thereof. The procedures are shown as a set of blocks that specify operations performed by one or more devices and are not necessarily limited to the orders shown for performing the operations by the respective blocks. In at least some implementations the procedures are performed by a design tool, such as design tool **104** that makes use of a control bar manager **118**.

FIG. **5** depicts a procedure **500** in an example implementation in which a control bar manager provides control bars for element activation.

A design interface for editing digital content is displayed (block **502**). By way of example, the design tool **104** displays a design interface **110** for editing digital content **106** on a display of computing device **102**. The design interface **110** allows users to interact with and edit the elements **108** of the digital content **106** in order to change the properties or attributes of these elements, such as the element's position within the digital content **106**, size, shape, color, transparency, fill type (e.g., solid, gradient, pattern, texture, and so on), depth relative to other objects (e.g., in front of or behind), whether the elements cast shadows, and so forth. The design tool **104** may facilitate other content editing operations via the functionality of the design interface **110** without departing from the spirit or scope of the techniques described herein.

A first control bar and a second control bar are displayed in the design interface (block **504**). In accordance with the principles discussed herein, the first control bar is associated with a first element of the digital content and the second control bar is associated with a second element of the digital content that at least partially overlaps the first element in the digital content. As discussed throughout, the first control bar and the second control bar are configured to remain visible and selectable in the design interface while editing the digital content. By way of example, the control bar manager displays control bars **122**, **124**, and **126** for elements **112**, **114**, and **116**, respectively. Each of control bars **122**, **124**, and **126** are selectable by the user in order to activate the corresponding element **112**, **114**, or **116**. Notably, the control bar manager **118** controls the control bars **120** to remain visible and selectable in the design interface **110** while editing the digital content **106** during the design phase.

User input is received to select the first control bar or the second control bar (block **506**). By way of example, the activation module **204** of the control bar manager **118** receives a first user input **208** to select one of the displayed control bars **120**. Due to the control bar being always visible and selectable, the user input can be received as a single click or tap on the control bar **120** regardless of the positioning of the control bar relative to other elements of the digital content. In other words, the control bar remains in a top layer of the digital content at all times during the editing phase such that any input to the digital content at a position associated with the control bar causes the activation module to interpret the input as a user selection of the control bar, even in cases in which multiple elements overlap.

The respective first element or second element associated with the selected control bar is activated responsive to the user input (block **508**). In accordance with the principles discussed herein, the activating changes a visual appearance of both the selected control bar and the activated element and enables user interaction with the activated element. By way of example, responsive to detecting the first user input **208** to select a control bar **120**, the activation module **204** activates the element associated with the selected control bar, which is depicted as activated element **210** in example **200**. Additionally, the display module **202** changes a visual appearance of both the selected control bar and the activated element **210**. The display module can change the visual appearance of the selected control bar and the activated element **210** in a variety of different ways, including by way of example and not limitation, visually identifying a boundary of the activated element **210**, modifying a color of the selected control bar and/or the activated element **210**, or changing a size of the selected control bar. Once activated, the operation manager **206** interprets subsequent user input as input to perform an operation with respect to the activated element **210**. In this way, the user can quickly click or tap a control bar to activate the associated element, and then provide a second input to interact with or edit the activated element **210**, such as by dragging the activated element to a new position within the digital content, changing a size, shape, or color of the activated element **210**, or modifying other parameters or attributes of the activated element **210**.

A finalized version of the digital content is generated by removing the first control bar and the second control bar from the finalized version of the digital content (block **510**). By way of example, at the completion of the design phase,

the design tool **104** generates a finalized version of the digital content **128**. The finalized version of the digital content **128**, for example, can correspond to an image file, movie, document, web page, and so forth. As part of generating the finalized version of the digital content **128**, the control bar manager **118** automatically removes the control bars **120** from the digital content **106** such that they are no longer visible in the finalized version of the digital content **128**. For example, as depicted in environment **100**, the design tool **104** has removed the control bars **122**, **124**, and **126** from the finalized version of the digital content **128**.

Example System and Device

FIG. **6** illustrates an example system **600** that includes an example computing device **602** that is representative of one or more computing systems and/or devices that may implement the various techniques described herein. This is illustrated through inclusion of the control bar manager **118**. The computing device **602** may be, for example, a server of a service provider, a device associated with a client (e.g., a client device), an on-chip system, and/or any other suitable computing device or computing system.

The example computing device **602** as illustrated includes a processing system **604**, one or more computer-readable media **606**, and one or more I/O interface **608** that are communicatively coupled, one to another. Although not shown, the computing device **602** may further include a system bus or other data and command transfer system that couples the various components, one to another. A system bus can include any one or combination of different bus structures, such as a memory bus or memory controller, a peripheral bus, a universal serial bus, and/or a processor or local bus that utilizes any of a variety of bus architectures. A variety of other examples are also contemplated, such as control and data lines.

The processing system **604** is representative of functionality to perform one or more operations using hardware. Accordingly, the processing system **604** is illustrated as including hardware element **610** that may be configured as processors, functional blocks, and so forth. This may include implementation in hardware as an application specific integrated circuit or other logic device formed using one or more semiconductors. The hardware elements **610** are not limited by the materials from which they are formed or the processing mechanisms employed therein. For example, processors may be comprised of semiconductor(s) and/or transistors (e.g., electronic integrated circuits (ICs)). In such a context, processor-executable instructions may be electronically-executable instructions.

The computer-readable storage media **606** is illustrated as including memory/storage **612**. The memory/storage **612** represents memory/storage capacity associated with one or more computer-readable media. The memory/storage component **612** may include volatile media (such as random access memory (RAM)) and/or nonvolatile media (such as read only memory (ROM), Flash memory, optical disks, magnetic disks, and so forth). The memory/storage component **612** may include fixed media (e.g., RAM, ROM, a fixed hard drive, and so on) as well as removable media (e.g., Flash memory, a removable hard drive, an optical disc, and so forth). The computer-readable media **606** may be configured in a variety of other ways as further described below.

Input/output interface(s) **608** are representative of functionality to allow a user to enter commands and information to computing device **602**, and also allow information to be presented to the user and/or other components or devices using various input/output devices. Examples of input devices include a keyboard, a cursor control device (e.g., a mouse), a microphone, a scanner, touch functionality (e.g., capacitive or other sensors that are configured to detect physical touch), a camera (e.g., which may employ visible or non-visible wavelengths such as infrared frequencies to recognize movement as gestures that do not involve touch), and so forth. Examples of output devices include a display device (e.g., a monitor or projector), speakers, a printer, a network card, tactile-response device, and so forth. Thus, the computing device **602** may be configured in a variety of ways as further described below to support user interaction.

Various techniques may be described herein in the general context of software, hardware elements, or program modules. Generally, such modules include routines, programs, objects, elements, components, data structures, and so forth that perform particular tasks or implement particular abstract data types. The terms "module," "functionality," and "component" as used herein generally represent software, firmware, hardware, or a combination thereof. The features of the techniques described herein are platform-independent, meaning that the techniques may be implemented on a variety of commercial computing platforms having a variety of processors.

An implementation of the described modules and techniques may be stored on or transmitted across some form of computer-readable media. The computer-readable media may include a variety of media that may be accessed by the computing device **602**. By way of example, and not limitation, computer-readable media may include "computer-readable storage media" and "computer-readable signal media."

"Computer-readable storage media" may refer to media and/or devices that enable persistent and/or non-transitory storage of information in contrast to mere signal transmission, carrier waves, or signals per se. Thus, computer-readable storage media refers to non-signal bearing media. The computer-readable storage media includes hardware such as volatile and non-volatile, removable and non-removable media and/or storage devices implemented in a method or technology suitable for storage of information such as computer readable instructions, data structures, program modules, logic elements/circuits, or other data. Examples of computer-readable storage media may include, but are not limited to, RAM, ROM, EEPROM, flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical storage, hard disks, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or other storage device, tangible media, or article of manufacture suitable to store the desired information and which may be accessed by a computer.

"Computer-readable signal media" may refer to a signal-bearing medium that is configured to transmit instructions to the hardware of the computing device **602**, such as via a network. Signal media typically may embody computer readable instructions, data structures, program modules, or other data in a modulated data signal, such as carrier waves, data signals, or other transport mechanism. Signal media also include any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media include wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared, and other wireless media.

As previously described, hardware elements **610** and computer-readable media **606** are representative of modules, programmable device logic and/or fixed device logic imple-

mented in a hardware form that may be employed in some embodiments to implement at least some aspects of the techniques described herein, such as to perform one or more instructions. Hardware may include components of an integrated circuit or on-chip system, an application-specific integrated circuit (ASIC), a field-programmable gate array (FPGA), a complex programmable logic device (CPLD), and other implementations in silicon or other hardware. In this context, hardware may operate as a processing device that performs program tasks defined by instructions and/or logic embodied by the hardware as well as a hardware utilized to store instructions for execution, e.g., the computer-readable storage media described previously.

Combinations of the foregoing may also be employed to implement various techniques described herein. Accordingly, software, hardware, or executable modules may be implemented as one or more instructions and/or logic embodied on some form of computer-readable storage media and/or by one or more hardware elements **610**. The computing device **602** may be configured to implement particular instructions and/or functions corresponding to the software and/or hardware modules. Accordingly, implementation of a module that is executable by the computing device **602** as software may be achieved at least partially in hardware, e.g., through use of computer-readable storage media and/or hardware elements **610** of the processing system **604**. The instructions and/or functions may be executable/operable by one or more articles of manufacture (for example, one or more computing devices **602** and/or processing systems **604**) to implement techniques, modules, and examples described herein.

The techniques described herein may be supported by various configurations of the computing device **602** and are not limited to the specific examples of the techniques described herein. This functionality may also be implemented all or in part through use of a distributed system, such as over a "cloud" **614** via a platform **616** as described below.

The cloud **614** includes and/or is representative of a platform **616** for resources **618**. The platform **616** abstracts underlying functionality of hardware (e.g., servers) and software resources of the cloud **614**. The resources **618** may include applications and/or data that can be utilized while computer processing is executed on servers that are remote from the computing device **602**. Resources **618** can also include services provided over the Internet and/or through a subscriber network, such as a cellular or Wi-Fi network.

The platform **616** may abstract resources and functions to connect the computing device **602** with other computing devices. The platform **616** may also serve to abstract scaling of resources to provide a corresponding level of scale to encountered demand for the resources **618** that are implemented via the platform **616**. Accordingly, in an interconnected device embodiment, implementation of functionality described herein may be distributed throughout the system **600**. For example, the functionality may be implemented in part on the computing device **602** as well as via the platform **616** that abstracts the functionality of the cloud **614**.

CONCLUSION

Although the systems and techniques have been described in language specific to structural features and/or methodological acts, it is to be understood that the systems and techniques defined in the appended claims are not necessarily limited to the specific features or acts described. Rather, the specific features and acts are disclosed as example forms of implementing the claimed subject matter.

What is claimed is:

1. A method implemented by a computing device, the method comprising:

beginning an editing phase for editing digital content that includes multiple elements, responsive to beginning the editing phase displaying the multiple elements of the digital content within a design interface and displaying multiple control bars in the design interface, each of the multiple control bars associated with a respective one of the multiple elements of the digital content, wherein each of the multiple control bars are selectable to activate a respective one of the multiple elements;

controlling each of the multiple control bars to remain visibly displayed in a top layer of the digital content over each of the multiple elements at all times during the editing phase;

detecting user input to select a control bar of the multiple control bars displayed in the design interface; and

activating an element associated with the selected control bar responsive to detecting the user input.

2. The method of claim **1**, wherein the activated element at least partially overlays at least an additional element of the multiple elements prior to detecting the user input.

3. The method of claim **1**, further comprising:

receiving additional user input to perform an operation with respect to the activated element; and

performing the operation for the activated element.

4. The method of claim **3**, wherein the additional user input comprises dragging input to drag the activated element, and wherein the performing the operation comprises positioning the activated element at a new position within the digital content based on the dragging input.

5. The method of claim **1**, wherein the activating comprises changing a visual appearance of both the selected control bar and the activated element.

6. The method of claim **5**, wherein the changing the visual appearance includes visually identifying a boundary of the activated element.

7. The method of claim **5**, wherein the changing the visual appearance includes modifying a color of the selected control bar and the activated element.

8. The method of claim **5**, wherein the changing the visual appearance includes changing a size of the selected control bar.

9. The method of claim **1**, wherein the user input comprises a single tap or click on the control bar.

10. The method of claim **1**, wherein each of the multiple controls bars are visibly displayed in the design interface during the editing phase, and wherein the method further comprises at a completion of the editing phase, generating a finalized version of the digital content by removing the multiple control bars from the finalized version of the digital content.

11. The method of claim **1**, wherein the controlling comprises controlling each of the multiple control bars to remain displayed at a preconfigured distance from a top boundary of the associated element of the multiple elements during the editing phase.

12. The method of claim **11**, wherein the control bars comprise horizontal control bars.

13. The method of claim **11**, wherein each of the multiple elements includes a non-visible padding layer positioned between a visible portion of the respective element and the associated control bar.

14. The method of claim 13, wherein a thickness of the non-visible padding layer corresponds to the preconfigured distance.

15. One or more computer-readable storage media comprising instructions stored thereon that, responsive to execution by one or more processors, perform operations comprising:

beginning an editing phase for editing digital content that includes multiple elements, responsive to beginning the editing phase displaying the multiple elements of the digital content within a design interface and displaying multiple control bars in the design interface, each of the multiple control bars associated with a respective one of the multiple elements of the digital content, wherein each of the multiple control bars are selectable to activate a respective one of the multiple elements;

controlling each of the multiple control bars to remain visibly displayed in a top layer of the digital content over each of the multiple elements at all times during the editing phase;

detecting user input to select a control bar of the multiple control bars displayed in the design interface; and

activating an element associated with the selected control bar respective responsive to detecting the user input.

16. The one or more computer-readable storage media of claim 15, wherein the activated element at least partially overlays at least an additional element of the multiple elements prior to detecting the user input.

17. The one or more computer-readable storage media of claim 15, wherein the user input comprises a single tap or click on the control bar.

18. The one or more computer-readable storage media of claim 15, wherein the operations further comprises at a completion of the editing phase, generating a finalized version of the digital content by removing the multiple control bars from the finalized version of the digital content.

19. The one or more computer-readable storage media of claim 15, wherein the controlling further comprises controlling each of the multiple control bars to remain displayed at a preconfigured distance from a top boundary of the associated element of the multiple elements during the editing phase.

20. A system comprising:

at least a memory and a processor to perform operations comprising:

beginning an editing phase for editing digital content that includes multiple elements, responsive to beginning the editing phase displaying the multiple elements of the digital content within a design interface and displaying multiple control bars in the design interface, each of the multiple control bars associated with a respective one of the multiple elements of the digital content, wherein each of the multiple control bars are selectable to activate a respective one of the multiple elements;

controlling each of the multiple control bars to remain visibly displayed in a top layer of the digital content over each of the multiple elements at all times during the editing phase;

detecting user input to select a control bar of the multiple control bars displayed in the design interface; and

activating an element associated with the selected control bar responsive to detecting the user input.

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